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ABSTRACT

Beginning in 1990, the United States and the Organisation for Economic Cooperation and Development (OECD) conducted an international, 14-nation study of programs for at-risk children. This report presents findings from the second year of the study, during which the Planning and Evaluation Service of the U.S. Department of Education reviewed the following five programs: The Accelerated Schools Project, Success for All, the School Development Program, school-based management projects, and the Higher Order Thinking Skills Program (HOTS). The study investigated several important dimensions of reform, including model adoption and implementation, leadership and staff development, resources, curriculum and instruction, and parent involvement. Data were gathered from interviews and observations conducted at site visits made during spring 1992. Each section of the report begins with an overview of the theoretical foundation of the program, a summary of specific program components, and brief descriptions of the study sites. Highlights of the findings include the following: (1) the broader the scope of the intervention, the more program implementation depended on context rather than content; (2) time, rather than money, was the scarcest resource for most of the programs; (3) although program sponsors were very aware of the need for improved staff development, professional-development opportunities that contributed to teachers' intellectual growth were still the exception rather than the rule; (4) involving parents was often extremely challenging, even when reforms offered them decision-making roles; (5) governance-based reforms may generate legitimate outcomes that have no direct relationship to students, such as improved teacher work-lives; (6) interesting and challenging instruction geared toward higher order thinking skills were still quite rare in classrooms; and (7) even with the most successful reform initiative, connections to other social services may be essential. (LMI)

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LESSONS FOR SCHOOL-BASED REFORM

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LESSONS FOR SCHOOL-BASED REFORM

Analysis and Highlights

Background

Lessons for School-Based Reform, reports on the second year of U.S. participation in an international, fourteen-nation study of children and youth at risk. In the first year of the study six reform efforts were examined, Marie Clay's Reading Recovery, Robert Slavin's Success for All, Henry Levin's Accelerated Schools Model, James Comer's School Development Program, The Academy Model, and school-based management programs. This work resulted in the report School Reform for Youth at Risk: Analysis of Six Change Models. In the second year of the study, described in this summary report, site visits to Reading Recovery and The Academy Model were discontinued and Pogrow's Higher Order Thinking Skills (HOTS) Project, was picked up. Over this two-year examination of reform efforts, site visits were made to 22 schools.

This report focuses on a cross-site analysis of important dimensions of reform, including model adoption and implementation, leadership and staff development, resources, curriculum and instruction, and parent involvement. The report also gives particular attention to general lessons drawn across the programs about the difficulty of instituting meaningful instructional change.

STUDY FINDINGS

Highlights of findings contained in the report are presented below: In some cases, the highlighted findings are amplifications or revisions of what was found in the first year; in other cases, they represent new lessons that have emerged from the gathering of additional data.

PROGRAM DESIGN AND IMPLEMENTATION

- **Most of the reform models examined represent the compilation or repackaging of familiar educational ideas.** Teachers often expressed that what they were doing was not new. This has both positive and negative implications. The positive side of this is that the more familiar something is to existing beliefs the more likely it is that teacher's will not reject it. However, the down side is that if it is not new, teachers may not take it seriously.
- **The broader the scope of the intervention, the more program implementation depends on context rather than content.** Curriculum-based reforms, such as Success for All, Reading Recovery, and HOTS, have a very specific focus and can succeed through the skills of individual teachers without affecting the organization of the school. In more comprehensive governance reforms such as Comer and Accelerated Schools, the cultural context has a strong influence on the evolution of change. School reform design should respond to the school culture; if teachers are not ready to work collaboratively on difficult problems, it may be more sensible to start with smaller-scale initiatives

- **The type of district commitment required depends on the scope of the reform.** Some curriculum programs require little district support. However, no successful governance-based reforms were seen that did not have serious district endorsement or, at the very least, a key ally running interference at the district office. Paradoxically, given actual power relations in school districts, successful school-based management initiatives may need to start at the top.
- **Governance reforms need several years for planning, gradual implementation, and flexible assessment mechanisms; however, they should formulate clear goals for student outcomes at the beginning of the effort.** Reaching consensus about structural reform seems to be less chaotic when ideas about instructional change and desired outcomes are among the first decisions made.
- **Without sustained leadership and teacher commitment, sweeping changes may be trivialized and absorbed into traditional structures.** Without a principal and a core of committed teachers willing to devote extended energy to a project, efforts simply seem to fizzle out. The potential value of the more ambitious governance-change models is that the development of a common vision can create a template for program development: programs or strategies that are consistent with the common vision can be reinforced, those that work at cross purposes can be dropped.
- **Time rather than money is the scarcest resource in most of these programs.** Major reform initiatives that rely solely on uncompensated teacher time added to already busy schedules eventually run out of steam.

PROGRAM DEVELOPMENT AND TECHNICAL ASSISTANCE

- **Ongoing professional development opportunities for teachers are particularly important following the "honeymoon" reform period to rejuvenate teacher interest and sustain forward momentum.**
- **Although program sponsors are very aware of the need for improved staff development, professional development opportunities that contribute to teachers' intellectual growth are still the exception rather than the rule.** Regardless of the type of reform selected, continuing professional development opportunities and enhanced decision-making roles for teachers increase the chances of long-term intellectual growth.

PARENT INVOLVEMENT

- **Involving parents in these new reform initiatives is often extremely challenging, even when changes offer parents decision-making roles.** Successful parent involvement initiatives draw on community strengths and cultural characteristics to maximize parent contributions. This often means doing some serious, informal research into the community perspectives and beliefs and building on them--rather than expecting parents to adapt to school-generated notions of participation.

OUTCOMES

- **Interesting and challenging instruction geared toward higher-order thinking skills is still quite rare in classrooms.** Changing the curriculum to promote more "teaching for

understanding" is a slow and arduous process. There are no simple guidelines, classroom management is inevitably more problematic, and outcomes are uncertain. Despite these difficulties, in the sites visited, teachers were working hard at providing innovative and challenging instruction.

- **Impact on student learning is more predictable and immediate from successful implementation of curriculum-based reform; the goals of governance reform are long-range and constantly evolving.**
- **Impact from curriculum-based reforms depends on the degree of integration with the rest of the school's academic program.** Reforms are most effective when they can help generate systemic change; isolated programs allow people to overlook this potential.
- **Governance-based reforms may generate legitimate outcomes that have no direct relationship to students, such as improved teacher work-lives, enhanced collegiality, and a better school climate.** While these results do not receive the attention that improve test scores attract, none-the-less, imaginative instruction will not appear without teacher collaboration and work environments that are more conducive to student and teacher learning.
- **Even with the most successful reform initiative, connections to other social services may be essential; teachers do not have all the skills required to meet the multiple needs of at-risk students.**

I. Introduction

The United States and the Organization for Economic Cooperation and Development are conducting an international study of children and youth at risk. A portion of this joint study will consist of case studies of practices known to be effective in reducing the risk of school failure among various disadvantaged populations. The Planning and Evaluation Service will contribute to this fourteen-nation effort by providing case studies of successful programs that have potential for replication in other settings.

There is currently a large amount of research on both the problems experienced in school by disadvantaged youth and on promising instructional strategies to overcome these barriers. In the last few years many of the findings from this research, together with the experience of school practitioners, have led to the design of specific programs to address the needs of youth at risk. Several of these programs have been in existence long enough for evaluations to have shown them to be effective.

In 1990, the Planning and Evaluation Service of the U.S. Department of Education (ED) designated six programs for examination by Policy Studies Associates. These programs targeted various age groups, from first through twelfth grades, and differed in the range and scope of their goals. All have been adapted in several places; we observed the projects in action at two locations each. These programs, discussed in the first summary report volume School Reform for Youth at Risk: Analysis of Six Change Models, were:

- ***The Accelerated Schools Project***, developed by Henry Levin at Stanford University. This schoolwide effort involves an accelerated curriculum, which emphasizes challenging learning activities for students who normally are identified for drill-and-practice remediation. Instruction is aimed at the development of both higher order thinking and basic skills.
- ***Success for All***, developed by Robert Slavin and his colleagues at Johns Hopkins University. This program is a comprehensive reform intended to redesign remedial education. A number of instructional strategies (e.g., tutoring, cooperative learning) are used, with resources concentrated at the early grades, to ensure that no student falls below grade level in basic skills.
- ***The School Development Program***, developed by James Comer at the Yale Child Study Center. Also known as the "Comer Process," this is a comprehensive, schoolwide approach to school organization and management based on knowledge of child development and the importance of parent involvement.

- **School-based management** projects, which include a range of organizational restructuring initiatives. These reform efforts may involve both changes in school governance systems (including enhanced decision-making roles for teachers and parents) and in the organization of curriculum.
- **Reading Recovery**, an intensive reading program for first graders, based on years of research and successful practice in New Zealand. The program is a highly individualized tutoring system that relies on extended teacher training in diagnostic procedures, authentic assessment, and independent learning strategies.
- **The Academy Model**, a high school dropout prevention program that combines academic preparation and workplace training in a school-within-a-school design.

For the second phase of the study, ED asked us to review the first four of these projects at two additional sites each.¹ ED also called for a review of an additional program:

- **The Higher Order Thinking Skills Program (HOTS)**, developed by Stanley Pogrow and his associates at the University of Arizona, was designed as an intervention for Chapter 1 elementary school children. HOTS draws upon theoretical work in cognitive psychology and is based on the notion that children's intellectual abilities remain undeveloped by traditional drill-and-practice remedial programs. Using computers and Socratic questioning techniques, the program focuses on developing learning skills that can transfer across the curriculum.

Study Design

The second year of the study served as an opportunity to broaden the knowledge of school change efforts that emerged in the Best Practices study. We used our conclusions from the first-year study as working hypotheses to be tested using the evidence gathered through observation at the new sites. As in the first phase, we paid particular attention to cross-site analysis of important dimensions of reform, including model adoption and implementation, leadership and staff development, resources, curriculum and instruction, parent involvement, and program outcomes.

We were especially interested in further exploration of general lessons drawn across the programs about the difficulty of meaningful instructional change. A number of the programs visited during the first year had ambitious plans to reform the curriculum for disadvantaged students so that they would have access to challenging instruction rather than basic skill drill only. We found that this

¹ Detailed case studies of Reading Recovery and the Academy model may be found in the full first year report, Best Practices for Children and Youth at Risk of School Failure.

was a very tall order, and the movement from vision to practice was very uneven. In this second phase, the study team paid particular attention to places where the struggle to encourage and support such "teaching for understanding" was evident in classrooms.

Method. In the fall of 1991, we used our key informants (program developers and contacts) to select two promising sites where each of the five models is being implemented. We revised the original individualized interview guides to reflect the lessons of the first phase of the study, and prepared new ones for the HOTS study after reviewing the available literature.

Site visits took place in the spring of 1992. Each school was visited by a two-person team, who were on site for at least two days. Variations in program design called for different patterns of interviews and observations across the programs. In some cases, for example, it was important to observe classroom teaching; at others, attendance at parent and management team meetings was more appropriate. Time and resource constraints precluded gathering new information for program evaluation, especially pre- and post-test data. Instead, we relied on informants at each site to provide whatever information was available to help us formulate our conclusions about program outcomes and effectiveness. In addition, we considered staff and participant perceptions of how well the programs were meeting their stated goals. For the programs that directly targeted classroom instruction, we spent a great deal of time in classrooms observing teacher-student interaction, interviewing students, and reviewing materials.

Our analytical approach drew on multiple sources of evidence to develop conclusions about the potential for meaningful school change. Our conclusions about advantages and disadvantages of each model as implemented in these sites emerged from our observations and interviews. We paid particular attention to important intermediate indicators of reform, such as improved school climate and changes in teachers' attitudes toward their work and expectations of their students. We probed for indications of how well the implementation of the model conformed to prior expectations of the participants.

Limitations of the study. Our goal in these two studies was to draw lessons about school reform for high poverty schools across very different types of programs. Our task was not to evaluate the programs at individual sites; the relatively brief visits and lack of full access to outcome data made such a task impractical. Furthermore, the examples of each model that we examined can in no way "stand for" other adaptations of the program, since the sites were not selected to be representative.

Finally, the amount and quality of evaluation data varied enormously from site to site. In some cases, the model developers have designed rigorous evaluations using their own outcome measures; in others, district standardized test scores or staff and parent surveys are the only data available. These two sources of evidence are not equivalent, and we are not in a position to rule on the validity of these (and many other) approaches to evaluation. We therefore make no assumptions about whether or not each of these models will "work" but, rather, make every effort to chronicle the effects we were able to document through our interviews and observations.

Overview of the Report

The following five chapters describe each of the program models we examined. Each section begins with an overview of the theoretical foundation of the program, a summary of specific program components, and brief descriptions of the study sites. We then review advantages and disadvantages in the programs as implemented in the schools we visited.

A concluding chapter revisits the hypotheses of the first year report and elaborates on those preliminary results.

II. The Higher Order Thinking Skills (HOTS) Project

The HOTS program, developed by Stanley Pogrow and his associates at the University of Arizona, was designed as an intervention for Chapter 1 elementary school children. HOTS draws on theoretical work in cognitive psychology and is based on the notion that children's intellectual abilities remain undeveloped--or are even hindered--by drill-and-practice remedial programs. According to HOTS researchers, the difficulties experienced by at-risk students derive from problems in linking concepts and understanding rather than from lack of content knowledge. As a result, the program focuses on developing learning skills that can transfer across curricular areas.

HOTS uses commercially available software and Apple II computers. Teachers are trained in Socratic questioning techniques, in which direct "right" answers are never given and independent thinking is encouraged. Instruction is not linked to particular content areas or curricula. Rather, the techniques are intended to stimulate the development of four general thinking strategies: metacognition (consciously applying strategies to solve problems); inference from context (figuring out unknown words and information from the surrounding information); decontextualization

(generalizing ideas from one context to another); and information synthesis (combining information from a variety of sources and identifying the key pieces of information needed to solve a problem).

While HOTS was originally developed for Chapter 1 students in grades 4-6, it is now being implemented experimentally in middle school grades, for gifted students (K-2), and for mildly impaired learning disabled (LD) students. It is currently in use in more than 1,300 schools in 47 states and has been revised several times. Pogrow and associates are also piloting HOTS-math to replace the regular pre-algebra curriculum in grades 6-9.

Program Description

The HOTS program design rests on the following assumptions:

- A thinking skills program can enhance basic-skill gains at least as much as a good remedial approach.
- General thinking activities can be designed to enhance students' ability to learn content the first time it is taught.
- At-risk students have a great deal of intellectual and academic potential.
- The fundamental learning problem of at-risk students is an inability to "understand understanding." That is, many disadvantaged students, unaccustomed to adults who model thinking processes, are poorly equipped to deal with more than one concept at a time, to talk about ideas, or to think ideas through on their own.

HOTS offers (1) consistent modeling in thinking strategies and (2) opportunities to struggle with challenging problems under the supervision of a trained adult. HOTS researchers believe that it is essential to provide this instruction on a daily basis over an extended period; generally speaking, the students will need two years of thinking-skill experience before they can be expected to master thinking-in-content activities. With time, content learning increases as students internalize the ability to make linkages among concepts and develop individual strategies for approaching problems. This capacity to use conceptual frameworks and construct "architectures" in their minds enables them to learn content the first time it is taught, eventually making remedial teaching unnecessary.

Method. In a typical HOTS program, students go to the computer lab every day (at least 35 minutes a day, four days a week, is recommended) in groups of 15 or fewer. Teachers work with a scripted manual for each lesson. The first 15-20 minutes consists of intensive conversation with the teacher, generally focusing on linkages between the previous day's work and concepts learned earlier.

The teacher challenges and probes every student answer; all suggested strategies must be clearly articulated and justified. Following this discussion, a new challenge is given and students test their ideas on the computer. After mastering problems, students share their findings and strategies with each other. Once a month students have the opportunity to invite non-Chapter 1 friends into the computer lab for "tutoring." Because HOTS students are generally more expert than others in technology, they are able to share their new knowledge and problem-solving prowess as they become teachers rather than remedial learners.

Teacher training. While the curriculum materials are available for use by anyone, Pogrow and his associates recommend that teachers be trained in the pedagogical techniques that are an essential component of the program. One-week workshops are offered regionally, and follow-up assistance is available. Teachers are coached in Socratic questioning techniques, given practice in encouraging students to think independently, and aided in developing a sense of "proper levels of ambiguity." This ability to motivate students by achieving a balance among challenge, frustration, and successful effort is a crucial pedagogical skill. The training is conducted in the same manner as HOTS classes: there are no more than ten trainees, and the trainer uses Socratic dialogue.

HOTS trainers include staff from the HOTS projects and current HOTS teachers. HOTS developers believe that the trainers are very credible to the trainees because they have also been "working in the trenches," with a minimum of two years experience teaching HOTS themselves. Trainers are paid by the HOTS project, which assigns them to various training sites over the course of the summer.

There are no specific requirements for teachers selected to be trained in HOTS; however, project staff encourage districts to train only their "best" teachers. Trainees are also encouraged to get four to six hours of general computer training before attending the HOTS workshop.

HOTS staff provide some ongoing support to schools implementing the program. They conduct informal site visits when they are on the road for conferences, and give a toll-free 800 number to all HOTS teachers so they can have immediate telephone assistance at any time. Sites are also encouraged to allow teachers to meet once a month; some districts develop a network where teachers give sample lessons for their colleagues to critique. In addition, HOTSTUFF (the "unofficial" newsletter of the HOTS program) supplies its 5,100 subscribers with a steady stream of anecdotes, success stories, and curriculum updates.

School leadership. Pogrow suggests that principals undertake a number of leadership activities to increase the effectiveness of HOTS, the most important being the implementation of a

good overall school effectiveness program. Additional support needs include: (1) encouraging classroom teachers to participate in HOTS linkage activities (e.g., having students write their own questions and answers to content units); (2) scheduling a presentation of the HOTS video to introduce the program to the staff, and a two-hour workshop to train classroom teachers in linkage activities; and (3) supporting public displays of HOTS students' accomplishments.

Evaluation results. In 1989, HOTS was validated by the National Diffusion Network for use with Chapter 1 students. The data used by the review panel indicated that HOTS students achieved spring-to-spring NCE gains on standardized tests that were 67 percent higher in reading and 123 percent higher in math than national averages; second year gains were also greater than national averages. HOTS research staff recently completed a national survey of HOTS programs for the year 1989-90. Data were supplied for 50 of the 320 sites operating at that time (a non-representative sample) and indicated that these schools had overall spring-to-spring gains of 6 NCEs in reading and 2 NCEs in math.

Pogrow has also recently completed an investigation of the effectiveness of the HOTS for LD students. He concludes that HOTS is appropriate for both Chapter 1 and learning disabled students who are of "average intelligence" (i.e., measured IQ above 80) who have a "metacognition deficit" (i.e., are unable to solve problems strategically), are not severely dyslexic, and do not have short-term memory problems. Pogrow believes that the team has identified a simple assessment device to determine whether a student falls into this category.

Cost. Fees for the five-day training workshop, materials (curriculum, disks, and videotapes), and first-year program support are \$1,300 for the first teacher at a school. Training for each additional teacher at a school costs \$500. Every following year requires a support fee of \$65, which pays for curriculum updates, newsletters, and telephone support. HOTS also requires an initial outlay to purchase computers. Pogrow estimates first-year costs between \$700 and \$850 per student if there are no computers in the school.

Data Collection

We visited two districts in the spring of 1992 to observe HOTS in action and to talk with administrators and teachers who are currently implementing the program.

Site #1. The first site, located in a medium size city in the Southwest, was one of the pilot sites for the HOTS project in 1985. The school district serves about 57,000 students in 70 schools;

25 of these are Chapter 1 schools. There is a substantial Hispanic and Native American population in the Chapter 1 schools and a high degree of mobility because of the proximity to the Mexican border. The four schools we visited--three elementary schools and one middle school--are among the highest poverty schools in the district.

A district coordinator works half-time as a teacher in the HOTS program and facilitates the program at 12 schools. While teachers and administrators believe that HOTS is working well in the district, the coordinator told us that HOTS is not appropriate for all students. In order to benefit, students must be able to read the computer text. Since a version is not yet available in Spanish, HOTS is not suitable for limited English proficient (LEP) students.

Teachers at this site varied in their degree of expertise with the model; a few stayed faithful to the script, while others felt confident enough to improvise. During our observations it was apparent that unless teachers closely monitor the computer portion of the lesson, students are able to find shortcuts and guess rather than engage with the strategy-building exercises as intended. Despite the uneven implementation, all the teachers and principals were pleased with the progress students made, citing improved confidence, independent thinking, and articulation of their ideas.

Some schools at this site have made an effort to extend HOTS strategies to the regular classroom. At one school, for example, the HOTS teacher leads HOTS lessons four days a week to Chapter 1 students, and on the fifth day conducts a HOTS lesson for a regular classroom with the teacher present. This school reported improved scores on the Iowa Test of Basic Skills (ITBS) across the HOTS grades (4-6).

Site #2. The second site is located in a medium size city in Alaska, where a total of 12 schools have implemented HOTS. We visited three of these schools, all of which offer particular challenges to implementation because of high transiency rates. One school is on a military base that loses over half of its students each year, and another has a majority Native Alaskan population that spends a large proportion of the year (particularly hunting and fishing seasons) back in native villages.

One school in this district uses HOTS in its schoolwide Chapter 1 program. The school began by training all grade 4-6 teachers in the HOTS method. The reading specialist and the classroom teacher split each class in half for a Socratic discussion that begins each lesson. Because the Chapter 1 money has lowered the teacher-student ratio to 1:15, the class can be divided into HOTS-sized discussion groups.

The district coordinator is pleased with HOTS and plans to expand the approach in developing a new science and math curriculum. Teachers note, however, that cultural differences and high mobility create implementation problems. Even where background characteristics do not conflict with the HOTS approach, teachers note that it takes four to five months to encourage students to give thoughtful answers to questions about their thinking. This difficulty is compounded when a particular culture, such as the Native Alaskan, does not promote verbal self-expression--which may be considered inappropriate boasting or showing off.

HOTS staff in this district believe that standardized tests are not suitable for measuring thinking strategies developed in the program. They do report improved scores for HOTS students on writing assessment tasks, and they are currently developing alternative assessment measures that they believe will more accurately represent progress in the program.

As in Site #1, the uneven quality of the HOTS lessons we observed indicates a need for more extensive training in questioning techniques, especially in probing for more sophisticated student responses.

Issues across Sites

Positive features. The HOTS program is very popular among staff and administrators; they see a great deal of benefit for a relatively minor cost. Students, too, seem to be unusually enthusiastic about the program. When well taught, HOTS has the following advantages:

- It concentrates almost exclusively on higher-order skills, providing a significant contrast to most remedial activities. Teachers facilitate engaging, sophisticated conversations with their students, and create an environment where students can explore their own ideas as they develop general understanding and problem-solving strategies.
- Because of the small size of HOTS classes (usually 8 to 15 students) and the nature of the tasks, students receive much more one-on-one attention than in the regular classroom. This close monitoring, unlike traditional tutoring sessions that focus on drill and practice, emphasizes the development of independent learning strategies. Teachers model thinking by responding to students' ideas and their construction of meaning. "Correct" answers are never given, and the process resembles coaching rather than information transfer.

- The strategies students learn can transfer across content areas. Rather than learning subject matter, students develop ways of structuring knowledge that can apply to all academic tasks.
- HOTS is motivating for students. Because the computer work consists of puzzles and logic problems, it carries with it the cachet of a high-status activity. Teachers report that HOTS students no longer feel the stigma associated with Chapter 1 status. Indeed, a high point of the program is the periodic invitation of other students in the school into the HOTS lab to show off the participants' accomplishments.
- In HOTS training, teachers are asked to stretch their skills in new and important ways. If successful, they make significant progress in the direction of teaching for understanding.
- The HOTSTUFF newsletter, the toll-free 800 number, and occasional visits from the University of Arizona staff provide ongoing support to teachers who have questions or concerns. The program also benefits from this approach, as evidenced by the fact that several revisions to the program have resulted from teacher input.
- HOTS is relatively easy for schools to implement. Because it is a pullout program, it fits comfortably with traditional Chapter 1 formats. In its most basic form, it requires only that one HOTS teacher receive training. Costs are reasonable and diminish over time.

Potential problems. Pogrow maintains that only the "best" teachers should take on HOTS training. Even under such ideal circumstances, the instructional program is an ambitious one. Our observations and interviews indicated the following:

- Most of the teachers we observed could benefit from much more extensive training and practice. It is unrealistic to expect that teachers will effectively lead a Socratic dialogue--a radical departure from traditional direct instruction--after five days of training.
- The availability of scripts to guide the discussions is a mixed blessing at best. While it enables beginning HOTS teachers to hone their questioning skills in relative comfort, it is not a format appropriate to HOTS philosophy. A standard prompt for a spontaneous conversation is a contradiction in terms: not only does it constrain the kind of teacher intellectual growth needed to guide such dialogue, but it often simply will not work. We saw many examples of prompts that elicited student responses for which there were, of course, no appropriate teacher responses in the script. This resulted in the acceptance of meaningless student answers or bizarre non-sequiturs--in which teachers simply went on to the next part of the script.
- The ease of implementation can also be a disadvantage if general school improvement is a goal. Unless special efforts are made to integrate the strategies in other classrooms, HOTS teachers can be isolated from the regular school curriculum.

Students may find that their HOTS-developed strategies may be considered inappropriate by teachers in traditional classroom settings.

- It may be difficult for HOTS students to demonstrate their progress on traditional standardized tests. A school that implements HOTS should consider alternative assessment measures that reward interdisciplinary expression and thinking strategies.
- HOTS designers admit that the program is a sequential one that is ideally followed for two consecutive years. A few of the schools we visited do not allow students to enter the program midyear. High poverty schools usually have high mobility rates, and this program feature, by definition, may exclude the students most in need of this kind of help.
- While HOTS may be naturally adaptable across content areas, in its original form it is not automatically appropriate across cultures. Developing the kind of verbal skills called for in the program may be very difficult in certain contexts, as our Native Alaskan population showed.

III. Success for All

In 1986, Robert Slavin and his colleagues at the Johns Hopkins University Center for Research on Elementary and Middle Schools were approached by Baltimore school district personnel, who asked if the Hopkins team could organize a school in a way that would ensure the success of every student. At the time, the Hopkins staff were working on a book--Effective Programs for Students at Risk (1989)--that summarized research on programs for disadvantaged students. Using the research literature and their own experiences as a guide, Slavin and his colleagues identified a configuration of promising instructional and social strategies that became the basis of the Success for All (SFA) program.

The objectives of the SFA program are fairly simple. In brief, they derive from the belief that all children deserve an equal opportunity to succeed in an academic environment. According to Slavin, that opportunity comes from ensuring that every child achieves grade-level proficiency in basic skills by the third grade. This perspective has led to the development of a program that focuses primarily on modifying classroom instruction and meeting the social and emotional needs of the child, while leaving the basic administrative and organizational features of the school largely unchanged.

The philosophy of SFA emerged from research that consistently demonstrated that children who experience academic failure in their formative school years--particularly those who have been retained in grade or have poorly developed reading skills--are severely at risk of dropping out. SFA attempts to guarantee grade-level proficiency through a variety of research-based program components

designed to prevent or remediate learning deficits with prescribed instructional methods and by providing social, emotional, and physical support systems for disadvantaged students.

Specifically, SFA includes comprehensive reading and math programs targeted to small, homogeneous ability groups; opportunities for one-on-one tutoring; reading assessments and potential group reassignment every eight weeks; preschool and full-day kindergarten instruction; a family support team; a program facilitator; pre- and inservice teacher training sessions; and an advisory committee. These program components are introduced into the schools over a two-year period; SFA remains in the host school for a minimum of five years.

Currently, SFA is operating at various stages of implementation in more than 25 schools around the country. Each school's program is coordinated by Slavin and his colleagues.

Program Description

Success for All requires a fairly substantial financial commitment from the school. Implementation in the pilot school required the addition of six tutors, an extra teacher to reduce class size, an extra preschool teacher and an aide, an extended-day kindergarten teacher and aides, and a social worker.

The Hopkins team requires that all candidate SFA schools meet the following criteria:

- The school should qualify for a Chapter 1 schoolwide project, which requires that 75 percent of children in the attendance area come from low-income families and are eligible for free and reduced lunch
- The principal must express interest in SFA to the district superintendent and must have full cooperation and approval from the district office
- The school cannot operate other large-scale reform initiatives in conjunction with or along with SFA
- The principal must secure approval from 75 percent of the school staff before adopting the program
- Hopkins staff must approve of the site facilities

The program exists in two forms: the "Cadillac" version, which incorporates all the services described below, and the "Chevy," in which funding constraints compel the school to omit one or more of the key components.

Governance. A full-time program facilitator coordinates the operations of Success for All in collaboration with the principal. The facilitator regularly tours the classrooms to help teachers and tutors on issues of curriculum, implementation, and classroom management. In addition, the facilitator helps coordinate the activities of the Family Support Team. The school principal typically hires all the teachers (including the SFA facilitator) and conducts evaluations. When working under budget constraints, the principal usually decides which SFA components to adopt and which to exclude.

Reading program. Success for All's reading program consists of certified teachers working with small, multi-age groups of 15 to 17 students in daily 90-minute reading sessions. Except in kindergarten, the reading groups are arranged according to reading performance levels rather than by age or grade.

SFA strongly emphasizes basic oral language skills in preschool, kindergarten, and first grade with the Story Telling and Retelling (STaR) program and the Peabody Language Development Program series. The STaR program uses children's literature to develop comprehension and retention skills by having students listen to, retell, and act out stories. The Peabody Language Development Kits are used to develop students' receptive and expressive language.

Beginning reading. Once students are ready to begin reading--usually sometime during kindergarten or the beginning of first grade--they start a series of activities focused on learning the sounds and symbols of the alphabet. Eventually, K-1 students move into the Hopkins-designed "Beginning Reading" program, in which they begin (1) reading from phonetically regular "minibooks," (2) learning story structure and comprehension skills, and (3) integrating reading and writing. By the time the students finish kindergarten, most will have completed 15 to 17 lessons from the Hopkins' SFA beginning reading teacher's manual. Students typically complete all 67 beginning reading lessons from this manual by the middle of the first grade.

The "minibooks," developed by Nancy Madden at Johns Hopkins, are photocopied, illustrated stories, stapled into pamphlet form, that focus on particular vowel sounds or consonants; they include passages for both student and teacher to read aloud. Madden, a clinical psychologist, is the main expert on reading instruction for the SFA team. The materials combine an emphasis on the word-attack skills of phonics-based instruction with the teaching of story structure and comprehension

skills. The materials allow young children who have learned only three letters to read a "book" they can understand.

Once students complete the required booklets (usually not until the first grade) they move on to the Primary Phonics series, for which Hopkins has also designed teaching materials.

Beyond the Basics: First- to fifth-grade reading. Students who have reached the 2-1 reading level move to the SFA Beyond the Basics program, an adaptation of the Hopkins-designed Cooperative Integrated Reading and Composition (CIRC) program with materials tailored to the district's basal series.

After listening to the teacher read a story aloud, the class briefly discusses the story's structure, characters, setting, and content. Afterward, students read the story to themselves and then aloud with their assigned partners. Once they complete the partner reading, they discuss comprehension questions found in their Hopkins-designed worksheets called "Treasure Hunts." These specially designed booklets provide vocabulary lists and comprehension and prediction questions for reading partners to discuss, as well as story mapping and writing tasks. All treasure hunt activities are based on the stories found in the basal readers.

Math program. The SFA math component, called Team Accelerated Instruction (TAI), is offered to students in grades 3-5. The essential elements of the program include direct instruction, cooperative learning activities, and a variety of workbook-based tasks. Typically, the teacher introduces a skill area, such as equivalent fractions, to a particular ability "team." During the direct instructional period, the students work cooperatively; after the session, team members work independently on worksheets related to the lesson. Teachers continuously rearrange the teams to keep the within-group ability level relatively homogeneous.

Reading and math tutoring. The Johns Hopkins SFA team regards reading and math tutoring as one of the central features of the program. Tutors, who are certified teachers, provide daily, individualized, 20-minute sessions for students needing additional help. Most students are tutored for one or two eight-week blocks. In order to reduce the size of the regular 90-minute reading sessions to 15 students, the reading tutors also serve as reading teachers.

Teachers assess the reading progress of all SFA students every eight weeks. These assessments, which are closely linked to the content of the beginning reading program or basal reader, indicate whether a student needs tutoring services or should be moved to another reading group. The assessments also include a teacher questionnaire on students' behavioral, academic, attendance, or

health problems. The Family Support Team's nurse or social worker is then notified of the potential need for family intervention or health care.

Pre-kindergarten and kindergarten. The SFA model calls for a half-day preschool and a full-day kindergarten program. In addition to using the language arts materials like STaR and the Peabody series, the preschool and kindergarten programs also focus on music, art, and movement activities.

Teacher training. Teachers receive two to three days of instructional training in reading and math at the beginning of each school year. The training is provided by consultants from Hopkins in conjunction with the school SFA facilitator. Further inservice sessions are provided throughout the year to help teachers with classroom management, instructional pace, and cooperative learning techniques. In addition, all preschool and kindergarten teachers receive training in using the STaR and Peabody programs. Finally, tutors have an additional day of training on tutoring strategies and reading assessment.

Family support team. The Family Support Team includes social workers, parent liaisons, counselors, nurses, and attendance monitors. The team's objective is to help disabled or dysfunctional children and their families. If students have trouble in school, the Family Support Team is often called in to assess the problem and assist in meeting student medical, nutritional, or emotional needs.

Data Collection

We visited a total of five Success for All schools during the 1990-91 and 1991-92 school years. Since Hopkins conducts a rigorous evaluation of all its program sites, achievement data (using tests selected by the Hopkins team) is more effective than for the other models reviewed in this report. SFA students typically perform better on the phonics-based Woodcock battery than on district-administered tests such as the ITBS or the Stanford Achievement Test.

Site #1. We visited two schools in a large urban district in the Northeast, the pilot schools for the Success for All program. Both are full-blown, "Cadillac" versions of the model that have obtained funding beyond that provided by the Chapter 1 schoolwide project; both spend between \$350,000 and \$400,000 per year to operate the program. Although the two schools have made some adjustments to the basic model (one school has tutoring for groups of four; a few teachers have reverted to traditional age-grouping practices), it is here where the model is found in its purest form.

Even so, there is variation across classrooms: some teachers adhere strictly to the structure and the materials, while others improvise more freely. In both schools, SFA was implemented gradually, and teachers were assured they were not expected to "do it all at once."

In the first school, Hopkins reports that in 1992 students completing the third grade scored more than a full grade level higher than controls (matched non-SFA students in similar schools within the district). The lowest quartile of these students were performing below grade level, but were still ahead of at-risk control students, who were two years below grade level. The number of retentions in grade--a primary target of SFA--declined from 48 in the year before implementation (1986-87) to three in 1990. Attendance increased during the same period from 87 to 92 percent. Finally, no fourth grader who had begun SFA in first grade was referred for Special Education, and third graders were 50 percent less likely to be referred than were control students.

In the second school in Site #1, students in all three primary grades scored significantly higher than controls, although all grades were well below grade level on average. Retention in grade decreased from 52 students in the 1987-88 school year to two in 1990-91. Attendance rose in the same period from 86 to 89 percent.

The district standardized test results show declines for both schools.

Site #2. We visited a school in a medium size city in the Southeast. A relatively small school, all of its students receive free or reduced-price lunch. The first year of implementation at this school was literally a disaster: a hurricane ripped through the school building, leaving severe damage in its wake. The school officially lost 17 school days that year and a great deal more time in related problems. Because Chapter 1 is the only outside funding source for Site #2's program, SFA had to do without the Family Support Team and the preschool program. In addition, the tutoring system had to adapt to the state Chapter 1 requirements, which called for students to be permanently assigned to tutoring arrangements rather than rotating into and out of tutoring as needed.

Not surprisingly, test scores declined after the first year of SFA (also the hurricane year). Similarly, the Hopkins-sponsored research was unable to find any consistent positive effects in either reading or math.

Site #3. We visited an SFA school in a medium size city in the deep South. This is another "Chevy" version of the model, because it lacks the funds to provide preschool services. Preparation at this site was comprehensive: the district provided training in SFA to all individuals who would be associated with the program, including teachers, administrators, school counselors, and librarians.

Because district personnel evaluate teacher performance, they too were trained in SFA instructional techniques and program operations. This was unique among the sites we visited.

The Hopkins evaluation data for this site have not been released. School staff report that achievement test scores show slight improvements.

Site #4. Our final visit was to a rural school in the Northern Rocky Mountain states. This school used creative funding (a mixture of district and state contributions), along with flexibility offered by the state and local Chapter 1 offices, to implement SFA without qualifying for a schoolwide Chapter 1 program. It operates on approximately \$46,000 per year to pay for materials and visits from the Hopkins consultant, or little more than a tenth of the cost of the "Cadillac" version. It does not have a full-time facilitator, a preschool, a full-day kindergarten, or a Family Support Team (but it does have a pre-existing Child Study Team that meets to discuss individual student problems). The school began implementation of SFA in the 1990-91 school year.

Hopkins has not yet released outcome data on this school. Data supplied by the school show that after the second year of SFA, 57 percent of first graders, 49 percent of second graders, and 56 percent of third graders were reading on grade level according to the ITBS. School personnel believe, however, that real student performance is much higher than the data reflect--all second and third graders and all but the very lowest first-grade group were reading in grade level basals by the end of the year.

Issues Across Sites

Positive features. The Success for All approach is a welcome one in the schools we visited; teachers appreciate the structure and guidance it offers. In addition:

- SFA acknowledges that children's academic problems stem from multiple sources--a fact that teachers have always understood. The emphasis on early intervention, and the services of the Family Support Team, provide the kind of supplemental help that primary teachers of disadvantaged children know is necessary, and it frees teachers to concentrate more energy on the academic program.
- SFA's outcome measures are extremely clear: that all students will achieve grade level proficiency by the third grade. This provides a very concrete goal, offers a sensible benchmark with which to measure progress, and codifies the type of high expectations that are often only rhetorical gestures.

- The tutoring feature, especially when used with a changing group of students, provides individualized attention to those who need it most. In conjunction with the eight-week assessments, it is well-designed to keep students from falling through the cracks.
- SFA offers teachers a clear structure and a set of tools to orchestrate lessons. Many teachers, especially inexperienced or uncertain ones, welcome the imposition of a defined framework. It reduces ambiguity by providing concrete guidance about when a lesson is done "right." It seems likely that this approach helps the weakest teachers improve their skills.
- The payoffs from the SFA instructional approach come rapidly, unlike more ambitious reforms that aim at teaching for understanding and developing problem-solving skills. The highly prescribed nature of the materials and the format are an effective management tool and are likely to make teachers feel much more in control of classroom events. As a result, the methods become self-reinforcing and do not require a significant amount of supervision or monitoring.
- Teachers at the sites we visited seemed universally pleased with the help they receive from Hopkins. While some noted that they would like to be able to afford to see them more often, we heard no negative comments about the consulting relationship.
- The inclusion of cooperative learning has the potential to balance the rest of the program's strongly teacher-centered approach by encouraging teachers to delegate some of the responsibility for learning to the students themselves.
- The on-site facilitator fulfills an important function as a resource to teachers, an intermediary between the teachers and the Hopkins team, and general cheerleader for program implementation.
- The reduction of class size in reading to 15 or fewer students of similar ability also contributes to easier classroom management and closer attention to academic difficulties.

Problems. Many of the less positive aspects in the programs we observed are simply the flip side of the advantages and stem from unintended consequences of the prescriptive, manageable approach.

- Just as SFA may strengthen weaker teachers' instructional repertoires and feeling of confidence, it may constrain the creativity of more experienced ones. While we observed several teachers who improvised in innovative ways using the SFA materials, nothing in the program encourages them to do so. Following the SFA program encourages teachers to find lesson plans in manuals rather than to develop creative approaches to curriculum that support student construction of meaning.

- While developed to allow novices to "read" sooner, the phonetically regular Beginning Reading materials are dull and lifeless, often a string of nonsense words. In the minibook "The New Hat," for example, the "story" begins: "Marvin has a new hat. A hand is on his hat. It is Pippin. Pippin has Marvin's hat. Marvin is mad. A hand is on his cap. Pippin has Dan's cap. Dan is mad." Needless to say, these stories do not draw on the students' backgrounds or interests, or invite them to find meaning in the text. From observing an SFA first grade classroom, it appears that "reading" consists of reciting a collection of words aloud. Indeed, the tests that show SFA progress (e.g., the Woodcock-Durrell) are measures of phonics and decoding rather than comprehension.
- The quality of tutoring varies from site to site, depending on the teacher's training and experience. In many cases, it was confined to drill and practice on the "Treasure Hunt" worksheets, in preparation for the weekly tests.
- The aspects of SFA that make classroom management easier, such as ability grouping, may be a mixed blessing. Classrooms in high poverty schools are becoming more heterogeneous, and this reality has prompted many schools to enhance teacher repertoires and expertise with more rather than fewer mixed groups. The kind of virtuoso performance required to orchestrate diverse classrooms is also handy for planning and directing challenging--but not easily managed--lessons that are student-centered. Because the "messiness" of life in schools is sidestepped in the SFA format, it is not surprising that cooperative learning seems to be the least well implemented component in the classrooms we visited. Like other student-centered approaches, it has no reliable script.
- The "Cadillac" model of SFA is very expensive; few schools can afford it.
- While the facilitator role is central, he or she has no independent authority in the school. This is only a problem when, as we noted in one case, the principal is less than committed to the program.

IV. The Accelerated Schools Project

Henry Levin, Stanford University professor and designer of the Accelerated Schools model, bases his approach to transforming schools on the philosophy that students at risk of school failure should be educated in the same way affluent parents would choose for their own children. According to Levin, the same educational approach that works best for "gifted" children is also appropriate for the disadvantaged children who are often labeled "slow learners."

The paradigm of the Accelerated School is a sharp departure from the conventional "remediation" approach to educating children at risk, which Levin refers to as the "villain's model." Rather than fostering high expectations for students, as the Accelerated Schools model proposes,

schools adopting the villain's model expect little of students. Instead of developing students' higher-order thinking skills and exposing them to ideas that they might find thought-provoking and relevant to their lives, traditional schools--says Levin--stress joyless, repetitive "drill and kill" exercises in basic skills. In contrast to the Accelerated School, which involves teachers, parents, and other community members in all aspects of the educational process, the traditional schools described by Levin are top-down bureaucracies that sap the motivation of all who work in them.

The Accelerated Schools Project (ASP), sponsored by Stanford's Center for Educational Research, began putting these progressive ideas to the test when the first programs were started in the 1986-87 school year. By the fall of 1987, the ASP's two pilot schools were in operation. Both are elementary schools in a large West Coast city, serving predominantly minority and economically disadvantaged populations. While originally designed exclusively for elementary schools, the model was extended to middle schools in 1990. By the 1991 school year, more than 50 elementary and middle schools throughout the country had adopted the model, and state networks had been established in Missouri and Illinois. In addition, the ASP created four university-based satellite centers to provide support for schools wishing to "accelerate" their programs.

Program Description

In its literature describing the Accelerated Schools model, the ASP identifies three overarching principles. Unity of purpose refers to the fundamental goals agreed upon by the school's on-site administrators, teachers, students, parents, and other interested community members after serious reflection and debate. Staff choose specific goals that can serve to organize all school activities, both in and out of the classroom. One paramount goal for all participating ASP schools is to raise the performance levels of students so that every student is achieving at least at grade level by the time he or she leaves sixth grade.

The second principle, empowerment, involves an expanded role in school governance for all key participants at the school site, including teachers and parents. In this model, power over the educational process resides at the school level, with the expectation that central office administrators will serve as facilitators and resource providers.

The third principle calls for building on strengths by locating and using all potentially available assets, including the interests and skills of students and other members of the school community.

These three broad principles constitute the foundation of all programs and activities at an Accelerated School. To assist schools in addressing specific implementation issues, the ASP also suggests various features that schools may wish to adopt in the areas of governance, curriculum, and instruction.

Governance. Accelerated schools are controlled through a web of committees, whose membership extends to teachers, instructional aides, parents, and other school staff. There are two types of committees: (1) "cadres," the small, task-oriented groups that address specific areas of interest in the school (e.g., parent involvement, student discipline); and (2) the steering committee, the body that considers the work of the various cadres and other issues of concern and sets agendas for meetings of the school as a whole. At these latter meetings, staff and parents gather to make decisions on all important issues that the school faces.

Curriculum and instruction. The ASP encourages teachers to "accelerate" and enliven the learning process by developing students' higher-order thinking skills and by relating instructional material to the students' daily experiences. Teachers organize material around themes that cut across traditional academic disciplines, with language skills stressed in each thematic unit. Additional proposed features include common, challenging curricular objectives for all students and multicultural content coverage.

The ASP's model calls for heterogeneously grouped classrooms. In mixed-ability classes, teachers use techniques such as peer tutoring and cooperative learning that involve students helping each other to negotiate academic material. The model also stresses active learning experiences for students (e.g., experimenting, constructing, discovering) and the use of primary sources rather than textbooks.

Data Collection

We visited four schools that had adopted the Accelerated Schools model.

Site #1. We visited one of the two original pilot schools for the ASP. Located in a West Coast inner city area, the school has an ethnically diverse student population. The program started in 1987-1988, when teachers unanimously voted to take on the challenge. The teacher cadres are active in school governance; parent involvement, other than in social activities, is less evident. There has been significant progress toward "acceleration" of the curriculum, and thematic units and interdisciplinary approaches are used throughout the school. After an immediate test score decline at the inception of the program (that corresponded with a major demographic shift), scores have

rebounded. By 1990-91, test scores exceeded the previous levels, and the school had the highest gains in reading and math of any school in the district.

Site #2. Site #2, a small elementary school in the Midwest, began the Accelerated Schools process in 1989-90. All staff, including the new principal, were informed of their selection for the reform; few staff had any idea what it would entail. Only five teachers were "trained" in the model, and no extra funds were made available to teachers for planning time or materials.

The result has been a very rough implementation process, with some teachers signing on and others ignoring the movement. The principal has been reluctant to delegate authority to the teachers. While individual teachers have made efforts to reform instruction, there is no universal commitment to "accelerating" the curriculum. A few teachers are quite resentful of the way the process was introduced. During the first year of the program, test scores increased slightly and in 1990-91 they decreased slightly; in neither case were the differences significant.

Site #3. Our third school is located in a moderate- to low-income African American neighborhood on the outskirts of a large Midwestern city. Site #3 started the program in the spring of 1988. As in Site #2, the original idea came from someone outside of the school (in this case the superintendent), and the principal and teachers needed some coaxing. The district provided them with some financial assistance, the flexibility to try new curriculum, and relaxed time constraints on required paperwork. Only a core group of teachers has been able to attend related staff development events. So far, this site's emphasis has been on governance changes--where they have made some effective shifts--with less focus on curriculum.

Although the ASP process in Site #3 has contributed to increased parental involvement and improvements in student attitudes and behavior, there has been no corresponding increase in achievement scores. In fact, the school's scores continue to be the lowest in the district. The superintendent suggests that the emphasis on governance over curriculum change may be responsible for this result. Another staff member noted that the style of teaching required to raise test scores in the short term is not the style advocated under the ASP, adding that the long-term benefits of the accelerated approach, emphasizing thinking skills and creativity, will likely be much greater.

Site #4. Our fourth site is located in a predominantly Hispanic, poor neighborhood in a large Southwestern city. Most of the students' families are recent Mexican immigrants; 84 percent of entering students speak no English. Site #4 started the ASP process in the fall of 1989, after the principal and teachers had reviewed the research on disadvantaged students and analyzed the fit of various programs to their own school needs. The teachers are very much in charge of the school, and

they have brought parents into the school in a number of novel ways. Both teachers and parents believe in real "ownership" of the school. Teachers are experimenting with innovative curriculum, such as a two-way bilingual primary program.

Significant improvements in student achievement and attitudes surfaced within two years of the adoption of the model. By the end of 1991, 90 percent of fifth graders achieved on grade level in reading, compared with 8 percent in the year prior to "acceleration." LEP students in the third grade improved their scores on the state standardized reading and writing test (TEAMS); before the program, only 28 percent passed the test, and by 1990, 83 percent were successful.

Issues Across Sites

Positive features. With widespread teacher commitment, the Accelerated Schools process seems to provide a useful vision for school improvement.

- By pulling all teachers into program design, the governance model makes them necessarily feel more responsible for the result; school failure is no longer allowed to be "someone else's fault."
- The principle embodied in building on strengths focuses teacher and administrator attention on positive characteristics of the students and parents and uses these as starting points for challenging curriculum. This provides a direct contrast to a perspective that focuses nearly exclusively on what students lack and, again, helps reinforce the notion that teaching staff must work effectively with the students they have.
- The committee structure, along with the imperative to "accelerate" the curriculum, essentially forces teachers to work together. This in turn promotes a sense of shared responsibility and encourages risk-taking. We observed several informal teacher conversations where staff compared notes and revised new instructional approaches that had been planned in their committees. For many teachers, this is a new experience.
- The push for interdisciplinary, thematic curriculum obliges teachers to engage in the kind of challenging activities they hope to create for their students. Successful thematic unit development is hard work with no shortcuts available. When appropriate time is allotted for this type of planning, it can become a valuable professional development activity.
- The ASP encourages the use of the inquiry method to approach school improvement planning. This method of problem definition, data collection, and experimentation is also the kind of learning process that reform advocates hope to provide for all

students. Teachers who have gone through this process themselves are much better equipped to guide students in tasks that have no simple right answers.

Problems. Becoming a fully "accelerated" school is an ambitious goal. Of the four schools we visited, only Sites #1 and #4 would consider themselves well along the road. Their experience provides a few cautionary notes:

- As is always the case in a change effort that provides direction rather than prescription, it is easy for the reform to become indefinitely mired in process. This is especially the case where all participants have not been a part of the decision-making process. There is a real danger of creating an "in" and an "out" group, and trying to alleviate the resulting tensions can sap the energy from instructional reform.
- Making the shift to challenging curriculum calls for collaboration among school staff, but it also requires access to external resources. Such help costs money, and two of our sites had only limited funds to use this way.
- A few staff members at the schools we visited were concerned with the effects of "acceleration" on the lowest achieving students, for whom individual attention and practice in basic skills still seem necessary. The model is yet unproven for these children, and the teachers who traditionally serve them are concerned that they may be left behind.
- Because this is a process that is intended to "look different" in every school, staff have little structure to provide feedback on how they are doing. It is important to set up some concrete, intermediate goals along the way.
- Staff time is a valuable resource, and the model calls for much more staff participation than in the traditional school organization. Even the most committed teachers begin to feel overburdened when saddled with too many additional tasks and no relief on the others.
- Meaningful parent involvement is not necessarily easier here than in other reform efforts. Even schools that were successful in this regard--that brought parents in as helpers in a variety of ways--had trouble in sharing all but token governance roles.
- The success of the ASP depends on the willingness of the principal to share power. This was not an easy task for the administrators at two of the schools we visited; in these cases, teachers naturally perceived less responsibility for making change happen.

V. The School Development Program (Comer Process)

The School Development Program (SDP), often known by the name of its founder, Dr. James P. Comer, is a process designed to improve school climate and make it easier for children at risk to

succeed academically. The "Comer Process" relies on a revised governance structure and revitalized bonds between the school, the family, and the community to help children learn, parents function more effectively in supporting and educating their children, and teachers develop professionally.

Comer, a professor of child psychiatry at Yale University's Child Study Center (CSC), developed the program to make schools more responsive to the needs of at-risk children and their families. He combined theories grounded in child development, behavioral psychology, social and cultural history, and the special needs of minority groups to explain why schools do not succeed for many children. According to Comer, children from disadvantaged backgrounds often do not experience many positive personal interactions and activities during early childhood and arrive at school developmentally delayed, less able to relate to their peers and teachers, and unable to apply themselves to learning.

In addition, demographic and cultural changes over the past 50 years have drastically influenced how children grow up. Unlike American culture during the early part of the century, modern life no longer offers a natural connection between schools and families. Communities are less cohesive and children's lives are more confused, often lacking stability and security. Finally, according to Comer, the history of racism towards and discrimination against minority groups in this country has manifested itself in generations of children and youth still suffering its effects. These factors together, in Comer's view, create an environment conducive to school failure.

Program Description

Unlike many other school reform strategies, the SDP is a process, not a "model." The program assumes that each Comer school will implement the process differently, depending on the personalities of the staff and the specific needs of the school and its students. The basic components of the process include:

Three mechanisms

- School Planning and Management Team
- Mental Health Team
- Parent Program

Three principles

- No fault - constructive change avoids blaming others
- Collaboration - school and community members need to learn to work together to solve school problems
- Consensus - all major decisions require unanimous agreement

Three operations

- Comprehensive school plan
- Staff development
- Monitoring and evaluation

Comer staff believe that each Comer school should have all of these elements, although their form may vary from school to school. To ensure effective implementation and use of the process, school staff should be familiar with the principles of child development that form the philosophical basis for the Comer process. Substantial reform can occur once the process is in place and working to its full potential. The SDP does not prescribe any particular substantive reforms; most notably, there is no curriculum required or recommended by the program.

The School Planning and Management Team. Of the three mechanisms that make up the structure of the SDP, the School Planning and Management Team (SPMT) is the backbone of the approach. This team, made up of the principal, teachers, other school staff, a parent representative, and an expert in child development, is the governing body in a Comer school. It meets as often as its members dictate, usually from one to four times per month. Its members address any and all issues that affect school life, from the use of manipulatives in math to hallway lighting and disciplinary policy. The principal shares decision-making authority with the group, although he or she reserves veto power with 51 percent of the vote. One team member acts as the Comer facilitator for the school, responsible for soliciting items for the agenda, convening meetings, and dealing with procedural issues for the group.

The major purpose of the SPMT is to involve all adults with a stake in the school in the decision-making process. The opportunity to serve on the team or be represented by a peer gives teachers power to set school policies and the authority to express opinions freely; principals in Comer schools are not permitted to discipline a staff member who takes an opposing viewpoint. Serving on the SPMT also gives staff the opportunity to work together. Teachers who are not on the SPMT are encouraged to bring concerns or ideas to their representatives and are invited to attend meetings.

The inclusion of other school staff (e.g., secretaries, custodians) acknowledges that adults who are not educators are also important in the lives of children and should have a say in matters that concern students. The parent representative on the team provides a link between the school and the community, and brings parents' views, concerns, and needs to bear on school policymaking. Finally, a representative of school psychologists, counselors, and other social service professionals makes recommendations to the team on how to incorporate issues involving child development and mental health into decisions affecting school climate.

The Mental Health Team. Comprised of classroom teachers, resource teachers, administrators, psychologists, social workers, and nurses, the Mental Health Team (MHT) brings principles of child development into decision making to improve school climate. By design, the MHT does not focus on individual children, looking instead at patterns in the school and ways to solve recurring problems, such as discipline policy or widespread truancy. These professionals, one of whom sits on the SPMT, take a "big picture" perspective on school climate.

The Parents Program. The third component of the Comer structure is designed to involve parents in social activities at the school. Many parents of at-risk children have had negative experiences of their own in school; their alienation and suspicion sometimes influence their children's perception of school and its usefulness. Helping parents plan and participate in social activities can make the school a less threatening place and encourage parents to play a more active role in their children's education. Parents select at least one representative to serve on the SPMT.

The three principles of the process--no fault, collaboration, and consensus--set the tone for the three governing groups, reflecting Comer's emphasis on cooperation and decision by consensus rather than decree. Finally, the three operations provide some of the substance for the process, although they are nonprescriptive and general. The SPMT develops a comprehensive school plan at the beginning of each year that outlines the needs of the school and strategies to meet those needs; the plan gives the SPMT structure and continuity. Staff development is an important feature of the SDP, since expectations of and requirements for staff change when a school adopts the SDP. The monitoring/evaluation component introduces an element of accountability.

These components make up the theory behind the SDP. In practice, the context within each school and district affects which elements are actually implemented and how closely the resulting process resembles the developer's ideal.

Data Collection

Over the two years of the study, we visited a total of seven schools in four districts.

Site #1. Our first visit was to two of the original pilot schools for the Comer process, located in a large Northeastern urban district. In 1984 the superintendent decided to expand the program to the entire district, although with much less involvement from the Yale CSC staff. The first school started the SDP model in the 1970s, replacing one of the original pilot schools that had dropped out of the program. The second school is isolated from the city's central business district, and serves three public housing projects.

At present, the district emphasizes staff development and supports the development of the SPMTs rather than focusing on parent involvement. The district office administers the program and provides training sessions, materials, and workshops. The union leadership cosponsors the training sessions. Virtually all district support is geared toward training principals and teachers to set up their own SPMTs and change the decision-making process in their schools; there is no training for the Mental Health Teams or for parents.

The two schools we visited both experienced initial test score increases and subsequent declines.

Site #2. The second site, a large urban district in the Northeast, implemented the Comer process in ten schools as part of a desegregation consent decree in 1985. The district employs a full-time coordinator to oversee the program, which now includes schools beyond the original ten. The two schools we visited were part of the first wave.

At the time of our visit, the district was run by a very powerful superintendent; decisions about matters from discipline policy to curriculum were highly centralized. The result was that the SPMTs were decision-making bodies in name only. Schools chose instead to use the Comer model to emphasize parent involvement. The Mental Health Team concept was also adapted to suit the pre-existing Supplemental Student Services Team, made up of similar personnel but geared toward discussion of individual students rather than school climate. Other than in the meetings and in parent activities, evidence of the SDP in these schools is scarce.

Test scores in the two schools have not risen since the initiation of the Comer process. Teachers do report improved relations with parents.

Site #3. We visited one school in a large Midwestern city that recently has radically transformed its school governance arrangements. By law, schools are now run by councils that have

a majority of parents and community members, along with a few teachers and the principal. A local social service agency provides funding and a facilitator for the SDP at this school, one of only four schools in the district chosen for this relationship. Here the SDP provides a useful umbrella and structure for a number of reform initiatives and gives direction to the management change.

The program began in the 1991-92 school year. Northwestern University researchers, who are conducting an evaluation, have not yet released the results.

Site #4. Our final visit was to a small rural district in the South. all six schools in the county began the Comer process in 1988. Foundation funding until 1991 paid for visits to Yale, participation in the Comer network, and on-site consultants. Since then, the district has not had the funds to fill this gap, and the program intensity has diminished considerably. As in Site #2, the district retains control over most policy decisions, and the SPMTs deal with less substantive issues. At School #1, the principal is still very much in charge and has a tense relationship with the SPMT; there is no on-site facilitator. At School #2, the principal is more adept at sharing power and teachers believe that their input counts--still within the boundaries of what the central office will permit.

Both schools have a parent liaison paid for with Chapter 1 funds. Test scores have improved at School #1 and declined at School #2. Because of the lack of direct attention to curriculum issues, these results probably reflect school-level differences unrelated to the Comer process.

Issues Across Sites

Positive features. The Comer process has intuitive appeal to educators and has received a great deal of national attention. Among its potential strong points are:

- Comer's assessment of the importance of home/school relations fits educators' notions of what has gone wrong in high-poverty schools and may provide them with direction on how to approach the problem.
- The encouragement of shared decision making between parents and teachers obliges everyone to feel responsible for student outcomes and may itself improve understanding between the two groups.
- The Mental Health Team concept brings professionals' expertise to bear on schoolwide issues, an important shift from their traditional role of dealing with individual problems.
- The on-site facilitator has an important role in orchestrating the multiple dimensions of the process. Schools that had one found him/her invaluable in maintaining a focus.

- The "no fault" principle, where it has become accepted and followed, appears to reduce the prevalence of fingerpointing and dodging of responsibility for student outcomes.

Problems. More than the other reform efforts discussed so far, evidence of the implementation of the Comer process is very elusive. Some possible explanations include:

- Because there are no clear connections provided between the principles of the change process and student outcomes, curriculum seldom is a focus of these efforts. While attention to school climate is important, school staff also need direction in ways to translate comfortable classrooms into productive academic learning environments. In the sites we visited, they did not derive naturally from improved home-school relations.
- It is very easy for all of the essential components to be diluted beyond recognition. Although the program is meant to be unique in each setting, there is a strong potential for it to be "adapted away," and schools can choose to take on only those components that suit the status quo. The impetus for change thus evolves into good reasons not to. In most of the schools we visited, there was simply no "there there"--evidence of real change was hard to find.
- Like other broad and comprehensive initiatives, the process takes a great deal of time. Because there are no clear benchmarks for progress, the enthusiasm can diminish during the long implementation period. This problem is compounded when there is no facilitator to track the effort regularly.
- As in the ASP model, success of the model depends on power sharing among administrators unaccustomed to doing so. This is often the case when model adoption is not voluntary.

VI. School-based Management

School-based management (SBM) involves delegating much of the authority for managing schools from district and state educational agencies to individual schools. The rationale behind this reform is that administrators, teachers, and other staff members at each school site are better suited than outsiders to make judgments about the needs of their students and to develop appropriate strategies to address those needs. Hundreds of districts across the United States have implemented different forms of school-based management, but typically only a select number of schools in each district participate, and in most cases authority is exercised exclusively by the schools' principals.

Two new developments in the conceptualization of school-based management have made it a promising strategy in the effort to reform schools serving disadvantaged populations. First, several districts have begun implementing school-based management systemwide, allowing all schools--including those with both poor and excellent performance records--to make critical decisions about the way they educate their students. Second, many of these districts share a belief that teachers should not just advise the principal, but should also share the responsibility for running the school. As a result, these districts have implemented a shared decision-making (SDM) component in conjunction with school-based management.

Program Description

Schools serving large proportions of disadvantaged students face both opportunities and challenges in tackling their students' many academic and emotional needs. School-based management allows teachers in these schools to reconceive (or to develop for the first time) their collective hopes and aspirations for their school, their students, and themselves, with the knowledge that they have the authority to act on those goals. In theory, the autonomy granted by SBM eliminates the possibility that teachers will develop programs and goals that conflict with state or local administrative guidelines. Problems remain, however, in understanding how much assistance and support teachers need in preparation for assuming these new responsibilities.

Traditionally, teachers are accustomed to making classroom-level, not school-level, decisions. They are trained to be classroom managers and to work within a system that provides a curriculum, a schedule, and materials, offering them few opportunities to work with their peers. Under school-based management's conception of shared decision making, teachers are asked to review and question that system, consult and work with their colleagues, and re-create the system according to the needs of their school. For some teachers, this endeavor is too time-consuming and lacks tangible rewards; for others, it is intimidating. Critics fear that teachers will avoid addressing important issues that affect learning outcomes, or that they will disagree on more issues than they agree on. Intense differences on divisive issues such as student discipline or funding allocations could, critics fear, paralyze a school.

Proponents argue that giving teachers greater authority and responsibility bolsters their sense of themselves as professionals, thus enhancing their commitment to teaching and to their students. Decision-making authority and flexibility allow teachers to develop a vision and a set of strategies to accomplish it. In short, SBM is meant to unleash both the expertise and commitment of the people who are ultimately responsible for ensuring the success of all school reform and improvement

initiatives. Failure to give teachers a major role in designing and implementing school reforms, proponents of SBM/SDM argue, minimizes the likelihood that reforms will succeed in improving student performance.

Data Collection

As will be clear, this "model" provides schools with little more than a clean slate--the opportunity to start from scratch in curriculum and governance. The four districts we visited for this study each approach SBM differently.

Site #1. Site #1 is a small district in the Southwest, serving approximately 12,500 students in 25 schools. In 1987, the superintendent established a partnership with a foundation and announced the inception of the Schools Improvement Program (SIP). The SIP encourages teachers, as a group, to identify their school's needs and propose changes that address those needs. Through the foundation partnership, teachers request funds for staff-development activities that support their desired reforms. Principals are not given a formal role in the SIP, although some are involved in an informal capacity. Teachers submit their plans for reform to the school board for approval. A statewide partnership with Re:Learning, a cooperative effort between Sizer's Coalition for Essential Schools and the Education Commission of the States, may provide technical and financial assistance if a school decides to make membership part of their SIP.

We visited an elementary school with a particularly ambitious reform plan. Teacher collaboration began at this school long before the beginning of the SIP, and a teacher advisory group had already developed a series of programs in response to a needs assessment. The SIP offered the teachers the opportunity to draft a proposal that would codify their decision-making system--they asked the school board to eliminate the position of principal (one had recently resigned) and to allow them to operate the school using a management team made up of teachers. The board approved the plan.

The school is now run by three teachers who serve as coordinators of curriculum, evaluation, and building and grounds and a fourth teacher who has a leave of absence from teaching responsibilities to serve as a facilitator for day-to-day administrative affairs. Staff are now responsible for all school functions except budget, including hiring, curriculum, materials selection, and peer evaluation. Instructional reform has been guided by their partnership with Re:Learning and

centers on the development of interdisciplinary core subjects and interdisciplinary "essential questions."

While the school ranks fourth highest in the district in the proportion of at-risk students served, its achievement scores on standardized tests are about average for the district and have risen steadily during the last five years.

Site #2. This large urban district in the Southeast serves nearly 300,000 students in 271 schools. The decision to adopt a SBM/SDM model in this district was driven by a practical concern: the need to attract and keep qualified teaching candidates by professionalizing teaching. In 1986, the district was interviewing an average of only two candidates for every vacant position. In the view of district staff (and of the cooperating union), attracting a large pool of expert teachers requires offering them full partnerships in all aspects of school decision making. To make teaching more competitive with careers in the private sector, the district developed a strategy that included higher compensation, career advancement ladders, more relevant staff development, greater access to technology, and more authority in school-level policy.

A pilot project in 1987-88 called for volunteers to implement the SBM/SDM model, subject to district approval. Thirty-three of 50 applications were accepted. In addition, 12 schools in the high school feeder pattern located in the poorest part of the district were required to join the program. Under SBM/SDM, a school must have a cadre of teachers who share the administration of the school with the principal. The composition of the cadre varies from school to school, but the principal and the union representative must be members. Cadres are responsible for developing budgets, making all personnel decisions for the school (including firing staff), and proposing all curricular and scheduling changes to the faculty at large. All staffing, budgetary, and curricular matters must be approved by the full faculty.

The school we visited, one of the original 12 required to take on SBM/SDM, is located in the heart of the poorest area of the city. The year the program began was also the year the school reopened after a fire, so the staff were ready for a new beginning. With the extra rebuilding funds they were able to purchase computers, software, and the school's first library. The management cadre is composed of both volunteers and elected representatives, and the principal is very comfortable sharing power with the staff. Staff developed some new programs with their new budgetary authority, including a developmental first grade, a pre-kindergarten program, a hands-on science lab, Saturday School, Early Bird classes, and evening library hours for students and parents. The district offers a variety of staff development workshops on topics such as conflict resolution and budgeting.

In the district as a whole, aggregate student achievement tests did not increase in the first three years of SBM/SDM. However, the district has succeeded in attracting more qualified candidates to teaching; it now interviews an average of ten candidates for every vacant position and draws experienced teachers from around the country. A district evaluation showed that teachers' satisfaction with their jobs was significantly higher in SBM/SDM schools, and the student attendance rate was significantly higher in participating schools. At the school we visited, attendance has risen steadily, and achievement scores rose in the first year after the program began.

Site #3. Site #3 is the same large urban district where Comer Site #3 is located. A 1987 teachers' strike, one of a series, mobilized parents and community activists to rebel against a school system that seemed unresponsive to their needs. For more than a year, they sponsored forums, recruited business groups, negotiated with the school district and unions, and proposed a series of often conflicting reforms. Finally, in 1988, these groups succeeded in lobbying the state legislature to mandate the decentralization of the school system, turning over much of the authority for running schools to parents.

The school board was charged with the task of developing a plan that would delineate new responsibilities for the central office, subdistricts, and individual schools. In the meantime, each school was responsible for electing a school council composed of a majority of parents and including community members and teachers. The school councils would approve school plans, hire principals, and set the budget. Principals signed four-year performance-based contracts and could be fired if their performance was below council expectations. The lack of teacher and union voice in the process has produced high levels of tension, manifest more openly in some councils than in others. Councils, in turn, often battle with the central office, which they accuse of encroaching on their authority in an attempt to derail school reform.

Within Site #3 we visited a school that serves highly disadvantaged students from a massive nearby housing project. The school was one of several selected in the city for the pilot Creating a New Approach to Learning (CANAL), which was instituted prior to the city school reform. The goal of CANAL is to give individual schools serving high poverty populations the opportunity to create shared decision-making structures and implement new and challenging curriculum. The school receives both financial help (\$127,000 from CANAL in 1992) and professional development opportunities. CANAL hires an entire replacement staff to take over the school for a day while the regular staff attend workshops as a group. Training in conflict resolution, for example, has helped ease tensions between the internal school planning team and the school council.

Most of the reform effort has gone into smoothing relations with parents and community, and school staff have not yet had time to address instructional issues as much as they would like. They have developed a thriving communication arts program that involves students in video production, a desktop publishing center, and a parent activities center. Although scores on standardized tests have not risen in three years, surveys show that the level of satisfaction with the school among teachers, parents, and students is higher than the district average.

Site #4. The final site is a large, diverse urban district on the West Coast. The district's population has been growing rapidly during the last decade, and the superintendent saw the need to respond to this challenge. He appointed a panel in 1987 to recommend a vision for the future of the school system. Among other suggestions, the commission recommended that the district "begin a fundamental restructuring of schools to experiment with new approaches and organization that [will] help all students attain productive futures." The district's restructuring plan was designed to respond to this report.

According to the plan, with the approval of two-thirds of the staff and a majority of parents, individual schools can restructure their curriculum and governance structure without the approval of the district. If the school requires waivers from district or union regulations, it can submit a proposal to the newly-formed Innovation and Change Leadership Group, a joint venture of the school board, district office, and the teachers' union. Schools can assume authority on all aspects of school life, except for hiring, where they must abide by union seniority rules.

The elementary school we visited in this district is located in one of the city's most culturally diverse neighborhoods. The school was one of the first in the district to submit its plan. The principal presented student performance data to the staff and charged them with developing strategies to improve working conditions and student performance. For six months, the faculty met in small groups to develop a list of principles to guide their activities. From these principles, goals and objectives for the school emerged and, ultimately, a program based on those goals.

Learning to work well together was a difficult process for this school's staff; they did not have a collaborative culture prior to the restructuring effort, and there was a great deal of initial resistance. Some teachers tried to sabotage the process by starting debates over procedural matters during staff meetings. While the most virulent opponents left the school, most of the other "resistant" teachers have found the transformation rewarding. Staff now share responsibility for managing the school. More than 20 committees make recommendations, and teachers, administrators, and other staff determine school policy by consensus at weekly faculty meetings.

The most significant instructional changes have occurred in grouping practices and the language arts curriculum. Students are now grouped by age groups and English language proficiency rather than by grades; all social studies classes are given in the students' primary language (English, Spanish, Lao, Hmong, or Vietnamese). This new system has virtually eliminated the need for pullout instruction. All afternoon sessions consist of heterogeneously grouped enrichment courses that include science, current events and geography, music, and art. In addition, the faculty elected to replace its basic-skills-oriented language arts curriculum with new standards that emphasize reading comprehension of high-interest material and creative and descriptive writing.

Parent involvement has increased through the energies of three parent liaisons. While standardized test scores did not improve during the first few years of the restructuring process, the school is now piloting an elaborate electronic portfolio system that will more accurately measure actual performance relative to the ambitious performance standards.

Issues Across Sites

Positive features. As with the Comer process, school-based management has a great deal of popular appeal, due to its apparent capacity to radically transform schools.

- As in the private sector, educators are seeing the importance of enhancing decision-making authority at the level where there is the most information. In the case of schools, classroom teachers know their "products"--their students--better than anyone. Particularly in disadvantaged schools, where the population may change dramatically from year to year, school staff who understand the context may be better qualified to make decisions that affect students than are central office personnel.
- Both principals and teachers are more likely to respond to growing public demand for accountability if they are in a position to structure their work lives in the most productive way. If constrained by apparently unreasonable and inflexible policy demands, it is far easier to deny responsibility for outcomes.
- Teachers may be more committed to their work and to their students if they are accorded status as professionals rather than as technicians carrying out the plans of distant others.
- When businesses decentralize authority they must usually decrease traditional supervision and monitoring; they then run the risk of losing a valuable source of information on employee behavior. As some analysts have observed, the opposite seems to happen in schools. In the traditional organization, teachers are isolated and unseen in classrooms, while the collaborative process that often emerges from SBM ironically makes their curriculum and instruction decisions much more visible.

Problems. As in the other governance reforms, freedom to rethink school organization has the potential both for creativity and for elaborate new forms of paralysis.

- School-based management is often launched as a panacea with no clear direction or goals. The process of establishing a consensus on desired outcomes may exacerbate existing tensions and further damage morale in already difficult school environments.
- Paradoxically, school-based management seems to thrive only in situations where there is real direction from the top. Three of our four sites were fortunate in that sense; the fourth had a community agency that filled the role.
- Financial support and professional development opportunities are two key components for schools engaged in ambitious restructuring efforts. These are often lacking in schools with economically disadvantaged populations.
- Granting waivers from existing regulations is necessary but insufficient. Existing union contracts may thwart school personnel choices; a district that calls for ambitious outcomes but measures them with standardized tests sends mixed messages. Ideally, all layers of the policy system need to be in agreement on the basic direction of the reform.
- A great deal of time is needed to plan, implement, and examine the results of these experiments. These reforms are new enough that their ties to student achievement are tenuous at best, and many educators are not willing to commit so much energy to a risky endeavor.

VII. Conclusions

Our two-year examination of change efforts at 22 schools has yielded several lessons for potential school reformers. In some cases, these lessons are amplifications or revisions of hypotheses we suggested in the first year report. Other lessons have emerged from additional data gathered in the second wave.

Program Design and Implementation

Most of these reform models represent the compilation or well-packaged reconstitution of familiar educational ideas. The genesis of some of these approaches is in older education research, such as the emphasis on phonics in Success for All. Other approaches draw on newer research in the psychology of learning and result in the type of emphasis on metacognition that we see in HOTS. Whatever the origin, we were struck by the number of times teachers told us, in describing a

particular approach, "We've really known this all along." This interpretation potentially has both positive and negative consequences. On the one hand, research on school change tells us that reform is most likely to be effective when the new behaviors reinforce rather than conflict with teachers' existing knowledge and beliefs. Putting strategies that are perceived to be tried-and-true under a shiny new umbrella sometimes reinvigorates them; giving the imprimatur of an esteemed consultant and creating a movement mentality may give teachers permission to take some risks. The "accelerated" instruction for all embodied in the ASP is a good example of this. On the other hand, the sense that this is nothing really new may discourage teachers and administrators from taking it too seriously, resulting in diluted versions of reform models.

The broader the scope of the intervention, the more program implementation depends on context rather than content. Curriculum-based reforms, such as Success for All, Reading Recovery, and HOTS, have a very specific focus and can succeed through the skills of individual teachers without affecting the organization of the school. They look similar in different sites, because they aim to change only the interaction between teacher and student around particular content in specified ways. In more comprehensive governance reforms such as Comer and Accelerated Schools, the cultural context has a strong influence on the evolution of change. Governance reforms announce up front that they must be tailored to each unique situation, and more widespread commitment to the need for change is generally a prerequisite. School reform design should respond to the school culture; if teachers are not ready to work collaboratively on difficult problems, it may be more sensible to start with smaller-scale initiatives.

The type of district commitment required depends on the scope of the reform. The more comprehensive the effort, the more critical district support becomes and the more likely that higher level policy constraints can block success. Success for All and HOTS need little backing from the district other than funds. For all of the organizational reforms (e.g., the Comer process, Accelerated Schools, school-based management), districts need to relinquish control and change their role from monitor to facilitator. In choosing a change strategy, districts must be aware of their own extensive obligations in comprehensive reform. We saw no successful governance-based reforms without a serious district endorsement or, at the very least, a key ally running interference at the district office. Paradoxically, given actual power relations in school districts, successful school-based management initiatives may need to start at the top.

Governance reforms need several years for planning, gradual implementation, and flexible assessment mechanisms; however, they should formulate clear goals for student outcomes at the beginning of the effort. Except in the rare cases of schools that are experienced in collaborative planning, a long period of process work seems to be a necessary evil. At each of our school-based

management sites, we were told how much harder the first year was than succeeding years--even when there was a curriculum framework in mind at the beginning. Only one of the schools we visited, an ASP site, was ready to go when it selected the model; the staff had done a significant amount of groundwork in a group research effort on their problems and potential solutions. Reaching consensus about structural reform seems to be less chaotic when ideas about instructional change and desired outcomes are among the first decisions made.

While curriculum-based reforms depend on the motivation and skills of individual teachers and proficient management, more comprehensive reforms depend on group dynamics and expert leadership. Obviously, teacher expertise makes or breaks any school reform effort, but many curriculum-based initiatives do not rely on collective endeavors. Governance changes will not even begin to mobilize individuals to make instructional changes unless the early consensus process is well orchestrated and carefully maintained. In SBM Site #4, for example, the principal was active in synthesizing teacher suggestions and ideas into "principles of change." She took disparate ideas and organized them into a model with an action plan. Once most teachers felt that their views had been honored, most of the rest were swept along by peer pressure.

Without sustained leadership and teacher commitment, sweeping changes may be trivialized or absorbed into traditional structures. The schools we visited were almost all victims of reform overkill. One principal expressed his frustration: "We have a history in this district of grabbing anything that comes along. We've about overloaded ourselves with project after project and don't do any of them real well." Without a principal and a core of committed teachers willing to devote extended energy to a project, efforts simply seem to fizzle out. The potential value of the more ambitious governance-change models is that the development of a common vision can create a template for program development: those that are consistent are reinforced, those that work at cross-purposes can be dropped. It is much easier to garner widespread support and commitment to ventures that are logically consistent and make sense.

Time rather than money is the scarcest resource in most of these programs. With the exception of Success for All, which has significant costs for materials and salaries, most of the programs discussed here are highly dependent on collaborative planning and professional development. Time is money, of course, and major reform initiatives that rely solely on uncompensated teacher time added to already busy schedules eventually run out of steam. We discovered a number of creative arrangements to carve out more teacher time, such as "buddy systems" to rotate class coverage (even a principal ran an aerobics class for the entire school to allow committees to meet). Eventually, however, schools that hope to make progress through collaboration must make permanent arrangements to pay for it.

Professional Development

In very different ways, almost all of the programs we examined confer greater decision-making authority on teachers. Success for All is a highly structured program that gives teachers solutions to problems; they are expected to follow the instruction manual--a set of specific tools with directions included. In all other cases, the models ask teachers to struggle with new and unfamiliar territory, whether in program planning or instructional reform. School-based management has enormous potential for long-term benefits, both for students and teachers, but it does come with unpredictable outcomes; it essentially asks teachers to develop the technology themselves.

In the programs we visited, there is a correlation between the amount of problem-solving effort required of teachers and the nature of the learning opportunities subsequently offered students. Reading Recovery and HOTS are both programs that require students to develop independent learning strategies by using what they know in complex ways. The teacher training approach to both of these programs asks the same thing of teachers. As we saw in the less successful HOTS lessons, teachers can take shortcuts (stay exclusively with the script rather than improvising appropriate prompts) and so can students (treat the computer puzzles as Nintendo and guess their way through). The point is that only by allowing teachers to construct their own understanding of new material can we expect them to provide this opportunity in their interactions with students. It is obvious that this kind of teacher learning demands a new training paradigm. In this revised approach, teachers collectively struggling with ways of implementing the NCTM standards, for example, is professional development, even when no "experts" are present.

Ongoing professional development opportunities for teachers are particularly important following the "honeymoon" reform period to rejuvenate teacher interest and sustain forward momentum. We heard many stories from teachers who were enthusiastic reform fans but who had simply run out of energy. Programs that had succeeded in keeping the faith a few years into the process provided teachers with new challenges and different opportunities to contribute to the reform effort.

Although program sponsors are very aware of the need for improved staff development, professional development opportunities that contribute to teachers' intellectual growth are still the exception rather than the rule. Teachers who were working to develop new challenging curriculum were particularly hungry for resources tailored to their needs. While some workshops are

worthwhile, many of the opportunities teachers seek are unconventional. They may want to visit other schools where interdisciplinary curricula are being piloted, and share experiences with teachers there. They may need to have a math specialist advise them on how to organize the construction of meaningful tasks. Many of these needs occur spontaneously, and cannot be predicted at the beginning of a project.

Regardless of the type of reform selected, continuing professional development opportunities and enhanced decision-making roles for teachers increase the chances of long-term intellectual growth. At one of our ASP sites, a teacher reflected on the difference between two principals, both of whom were very supportive of the project: "The [previous one] was always there when we got into trouble, and we appreciated that. Now [the new one] has helped us learn how to put out our own fires, and it's really what we need."

External change agents, such as universities, can lend credibility to an effort and help motivate teachers, but the relationship requires sensitivity and respect. School staff value the opportunity to interact with academic colleagues who honor their work. In the SFA programs, the Hopkins consultants were respected and welcome. In one ASP site, however, the relationship with a fleet of graduate students was less productive; teachers felt crowded and patronized, and did not experience any benefit from the relationship. It seems clear that the interaction must be chosen by the teachers and provide some tangible advantage.

Parent Involvement

Involving parents in these new reform initiatives is often extremely challenging, even when changes offer parents decision-making roles. Even in cases where school staff were very satisfied with the progress of their reform effort, they usually cited parent involvement as their weak suit. In schools with high proportions of students living in poverty, the cultural and economic gap between staff and parents is usually a major obstacle. Many of the students' parents have themselves had negative educational experiences, and today's schools are certainly no better organized to make parents feel welcome.

Successful parent involvement initiatives draw on community strengths and cultural characteristics to maximize parent contributions. This often means doing some serious, informal research into the community perspectives and beliefs and building on them--rather than expecting parents to adapt to school-generated notions of participation. At one ASP school, for example, staff realized that a majority of the mothers walked their children to school every day; they began inviting them in to help serve breakfast to the children. They soon had dozens of parents on a daily basis who

were inside the building providing a needed service--and who gradually felt comfortable helping out during other parts of the day and leading enrichment activities. The neighborhood parents now feel real ownership of the school and rotate responsibility for keeping it clean and safe.

Outcomes

Interesting and challenging instruction geared toward higher-order thinking skills is still quite rare in classrooms, even in these reform-oriented schools. Changing the curriculum to promote more "teaching for understanding" is a slow and arduous process. We found awareness of the need to move away from the numbing drill-and-practice regime that has for so long been the daily instructional diet for students in high poverty schools, and many valiant attempts to create more lively academic environments. But it is hard work: there are no simple guidelines, classroom management is inevitably more problematic, and outcomes are uncertain and largely unrewarded in traditional accountability schemes. We found it encouraging, however, that so many teachers were struggling with new approaches--even if most of the instruction still looks all too familiar.

Impact on student learning is more predictable and immediate from successful implementation of curriculum-based reform; the goals of governance reform are long-range and constantly evolving. Curriculum-based reform often focuses on a limited number of students. Where student achievement gains have been documented, much of this effect is attributable to a decreased adult-to-student ratio and more individual attention. Governance-based reforms may take a long time to filter down to student-teacher interaction. When it does, however, it may affect more students in more substantial ways.

Real impact from curriculum-based reforms depends on the degree of integration with the rest of the school's academic program. We saw examples in both Reading Recovery and in HOTS where the students were getting confusing messages after they left the program to return to the regular classroom. For example, we were told of a student who spent time in Reading Recovery learning how to use all the cues surrounding text ("Does it look right? Does it sound right? Does it make sense?") being reprimanded later in the day for "looking at the picture" in trying to read a sentence. The discrete character of these interventions may lull other teachers into indifference, and often no one attempts to share important information on strategies. Reforms are most effective when they can help generate systemic change; isolated programs allow people to overlook this potential.

Even with the most successful reform initiative, connections to other social services may be essential; teachers do not have all the skills required to meet the multiple needs of at-risk students.

While teachers will always be called upon to be social workers at times, programs that could call on teams of support personnel (e.g., Comer, SFA) have a huge advantage, especially in high poverty schools.

Governance-based reforms may generate legitimate outcomes that have no direct relationship to students, such as improved teacher work-lives, enhanced collegiality, and a better school climate. These are not results that draw rave reviews from accountability buffs in the current political landscape; outcomes mean scores. Nonetheless, it is important to recognize that reform advocates are calling for ambitious changes in schools of the type that have no real precedent. There are no adequate measures of these goals and no clear path to reach them. What does seem certain is that dazzling and imaginative instruction will not appear without teacher collaboration and work environments that are more conducive to student and teacher learning. Teacher intellectual growth may be one important intermediate indicator of improving academic experiences of students. Premature attention to increased student test scores on traditional measures can undermine efforts to create learning communities for both adults and children. While many of these sites struggle to develop alternative assessments to match the new goals, district support for ambitious reforms might include a temporary moratorium on high-stakes standardized tests.

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Schools are complex organizations, and changing established ways of conducting business is never easy. The reform models reviewed here receive a great deal of public attention as providers of "answers." The unfortunate truth is that data on the effectiveness of each of these programs are mixed at best--and it is unlikely that real school improvement will ever be reliably traced to any one set of tools. People, not models, change institutions; sometimes they choose frameworks to guide them productively in their efforts. We hope the evidence gathered here will provide some insight on what these designs mean for those who work and learn in schools.